

# **Clean Fuels Outlet Workshop III**

**July 13, 2011  
1:00 to 4:00 PM  
CalEPA Building**

# Agenda

- Program objectives
- Activities to date
- Proposed regulatory changes
- Example – market share allocation
- Compliance and performance criteria
- Regulation sunset
- Issues needing resolution and feedback
- Next steps
- CEQA Scoping

# Objectives

- Ensure that enough fuel is available to support ZEVs when and where it is needed
- Encourage best possible chance for success for both fuel providers and automakers
- Achieve 2050 GHG goals in the LDV subsector including fuel cycle emissions

# 2050 GHG Reduction Targets and ZEV Regulation

- 80% reduction from 1990 levels in 2050
  - 79% of LDVs on road in 2050 are ZEVs
- Requires critical mass of ZEVs by 2025

*This means that, by 2025,*

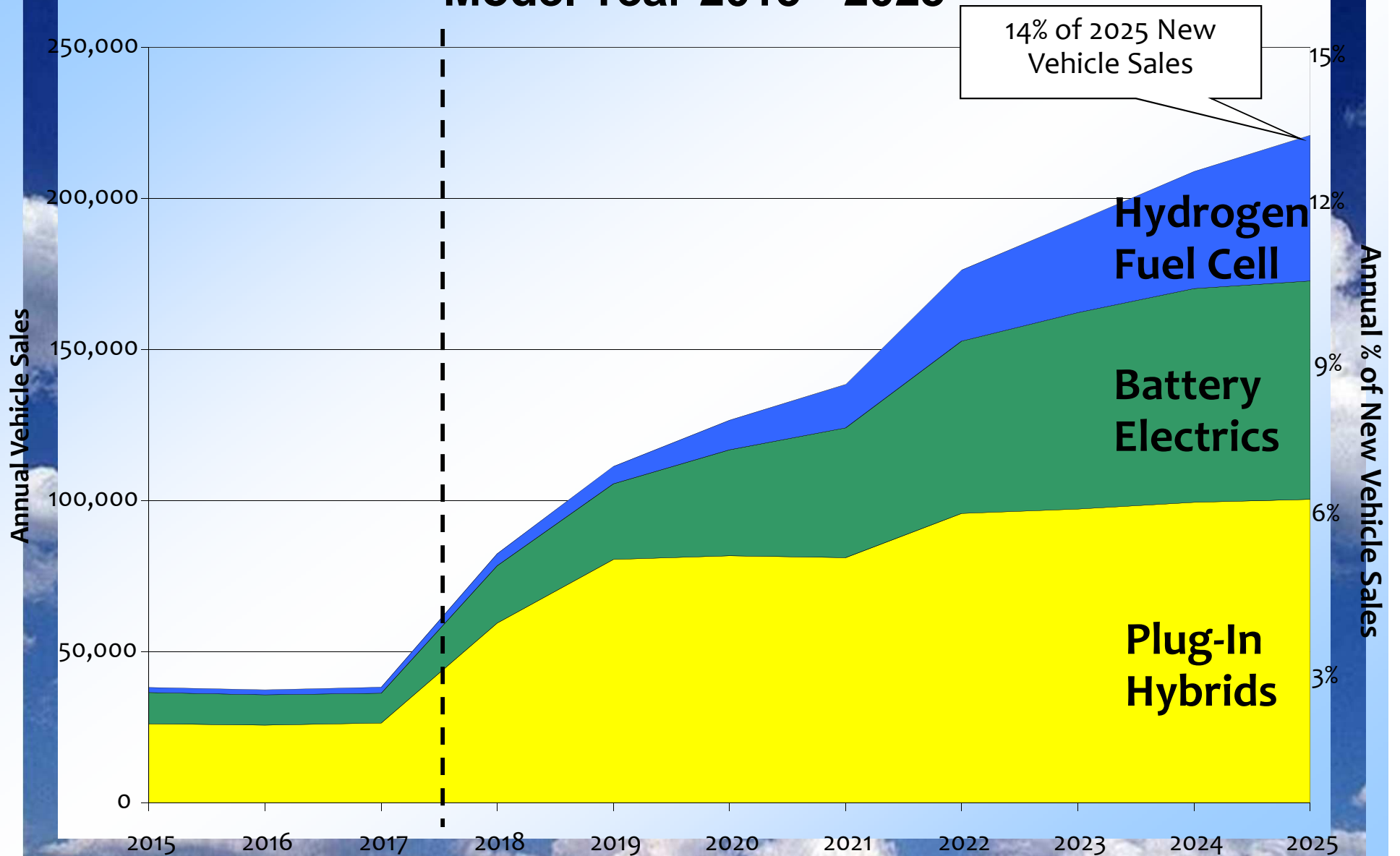
- ZEV technology is commonplace with multiple light duty platforms
- Fueling infrastructure is in-place to meet increasing vehicle demands

# Proposed Changes to ZEV Regulation

- PZEVs and AT-PZEVs will remain as compliance options in the regulation through MY 2017
- Only TZEVs\* and ZEVs will remain in the ZEV program 2018 and beyond

\*Transitional ZEVs (i.e., plug-in hybrids)

# Possible Compliance Scenario Model Year 2015 - 2025



# Minimum ZEV Requirement Possible Compliance Scenario

	2018	2019	2020	2021	2022	2023	2024	2025
<b>BEVs</b>	18,000	24,000	35,000	45,000	54,000	63,000	72,000	76,000
<b>FCVs</b>	4,000	5,500	10,000	15,000	22,000	29,000	39,000	51,000
<b>Total ZEVs</b>	22,000	29,500	45,000	60,000	76,000	92,000	111,000	127,000

# Summary – California FCEV Rollout from Survey data

Region/year	2011	2012	2013	2014	2015-17
<b>All California</b>	253	312	430	1,389	53,000
<b>SCAQMD</b>	197	240	347	1,161	34,230
<b>LA County</b>	104	125	149	484	
<b>Orange County</b>	93	115	198	677	

# Why CFO?

Resolution 09-66 adopted at Dec. 2009 board hearing – three tiered approach:

- Financial incentives
- Regulatory incentives
- Regulatory mandate: “Mandate hydrogen through modifications to existing regulations or through a new regulation.”

*The CFO is our backstop if other approaches fail to result in sufficient infrastructure.*

# CFO Activities to-date

- First workshop – April 1, 2010
- Second workshop – May 26, 2010
- Stakeholder outreach
  - Oil companies and distributors
  - Automakers
  - ZEV advocates
  - Environmental organizations
  - Industrial gas suppliers

# Alternatives Being Discussed

- MOU – voluntary agreement between oil industry and automakers
- Public-Private partnerships
- Geographic exclusivity for early compliance

*We welcome any alternatives that will result in hydrogen infrastructure.*

Examples of what could be done:

- Pooled funding to build and/or support pre-commercial network
  - Germany: Daimler, Linde and government
  - 20 H2 stations integrated into gas stations
  - Built in 2012 to 2014

# Proposed Amendments

# Proposed Changes - Applicability

## Current

- All alt fuels and AFVs certified to LEV standards (CNG, LNG, ethanol and methanol)
- Conversions included
- Electricity fuel specifically excluded from definition of designated clean fuel

## Proposed Changes

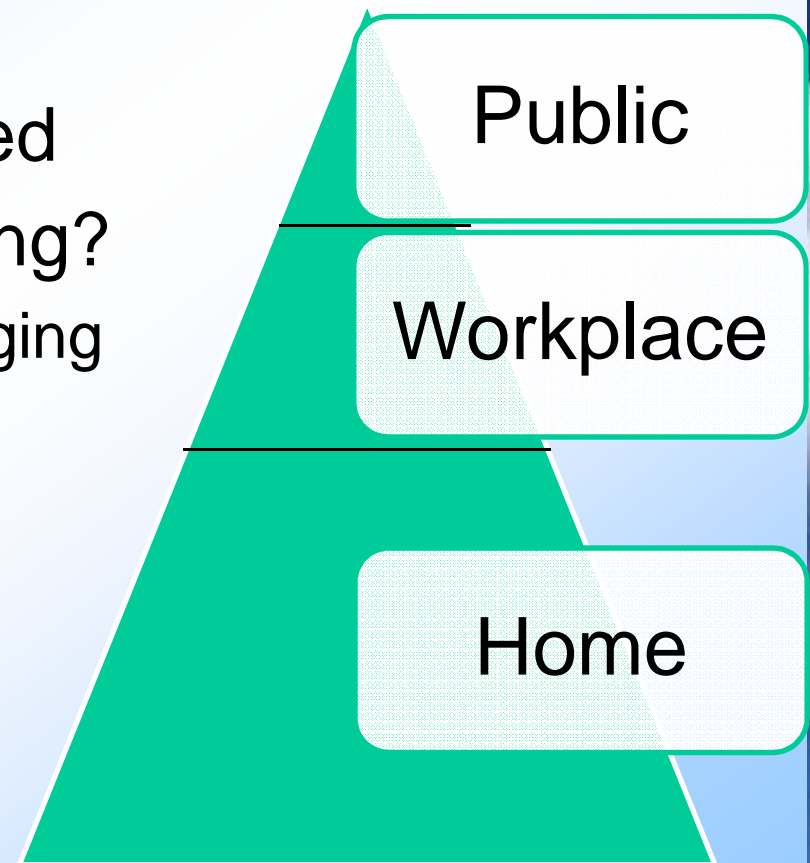
- ZEV fuels only
- Focus on criteria and GHG reductions
- Exclude conversions
- Placeholder for BEVs, PHEVs and charging
  - Set metrics and timeline for evaluating need
  - Avoid interfering with current development of private market charging infrastructure

# EV Charging Needs Assessment

Report to board two years  
after regulation is chaptered

## 1. How are people charging?

- Are utility rates encouraging residential off-peak?
- Are workplace chargers maximized?
- Is current public infrastructure sufficient?



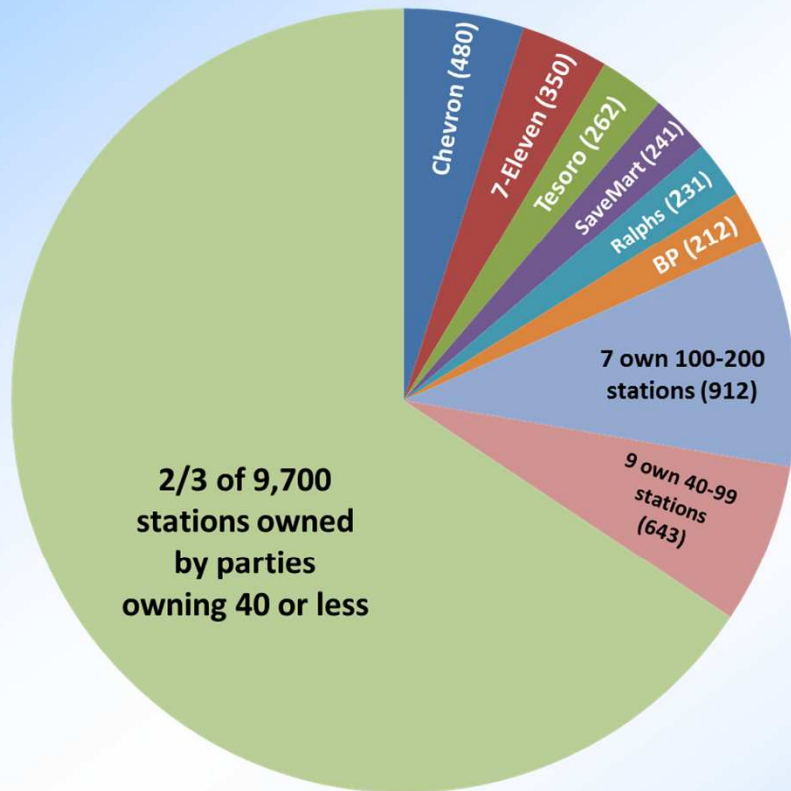
# Charging Needs Assessment- cont'd

- 2) If more public charging is needed, how much?
  - What types of infrastructure settings will attract EV drivers?
  - Increase overall electric miles driven?
- 3) What will it public charging look like?
  - Level 2, DC fast charging, or both?
  - Will the fuel be low carbon?
  - Is there a path to profitability for the charging provider?
- 4) Who will be most able to provide public infrastructure?
  - If there is no path to profitability, who should pay for it?

# Regulated Party for H2

## Current

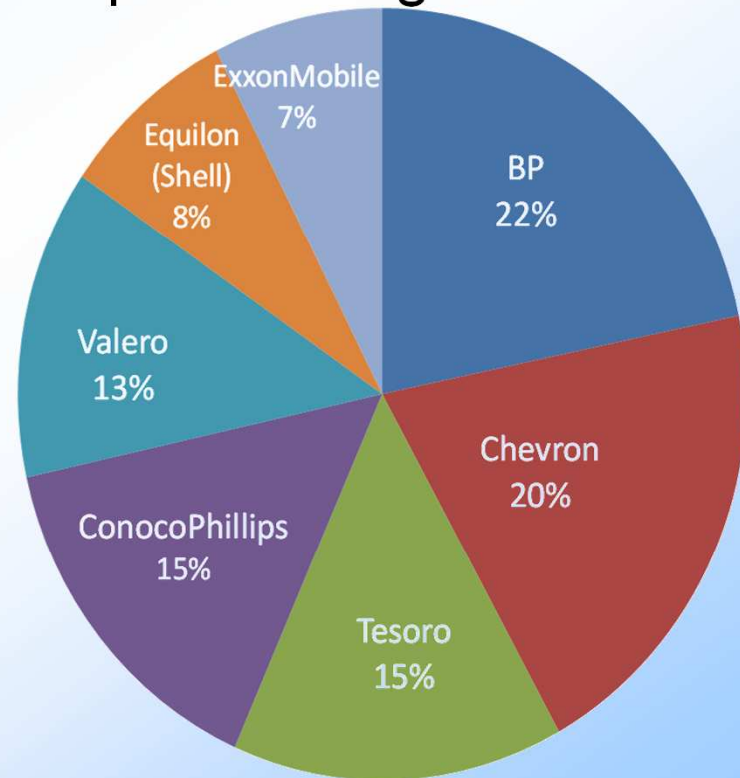
- Owner/lessors of gasoline retail outlets



Data source: State Board of Equalization, NAICS Code 4471, Jan. 2011

## Proposed

- Major producers and importers of gasoline



Data source: Board of Equalization, [www.boe.ca.gov/sptaxprog/spftrpts.htm](http://www.boe.ca.gov/sptaxprog/spftrpts.htm)

# Projections & Activation Trigger

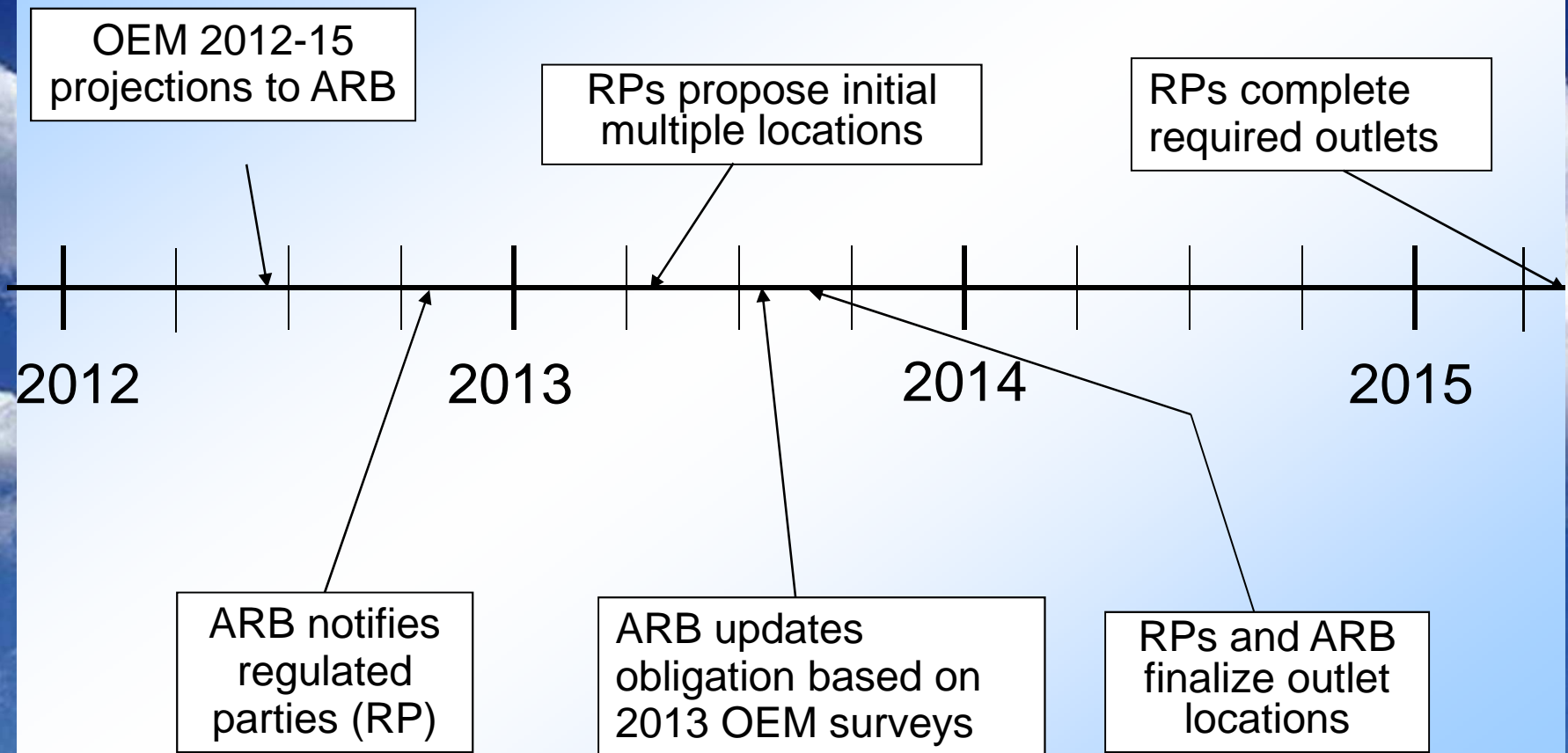
## Current

- Annual projections made two years out
  - Next year: 2012-2014
- Number of eligible vehicles based on projections and actual sales and leases
- Triggered at 20,000 of one type of eligible vehicles
- 75% of fleet vehicles subtracted from total

## Proposed changes

- Projections three years out
  - Next year: 2012-2015
- Use OEM data only
- 10,000 regional trigger (FCVs)
- 20,000 statewide trigger (FCVs)
- Keep fleet discount
- BEV trigger TBD

# Example-Regional Trigger Most Aggressive Scenario



# Example H2 Need Calculation for Regional Trigger

- Assume 10,000 FCVs driving 13,500 mi/y and getting 50 mi/kg
- Assume existing stations in region contribute 4400 kg/d (1.6 M kg/y) and 21 stations\*
  - \*Estimate based primarily on what current and future funding could support through 2014
- Supply shortfall used to determine number of new stations via 400 kg/d (146,000 kg/y) throughput volume
- Total increase in demand and new stations divided among RPs based on market share

# Example - Obligation by Market Share in SCAQMD Region

No. FCVs in Region		10,000		34,230	
Yearly H2 demand		2,700,000		9,242,100	
Existing supply anticipated in 2014		1,600,000		2,941,000	
Supply deficit		1,100,000		6,238,100	
Kg/d demand & No. new stations		3,014	8	17,337	43
BP	22%	663	2	3,814	10
Chevron	20%	603	2	3,467	9
Tesoro	15%	452	1	2,601	7
ConocoPhillips	15%	452	1	2,601	7
Valero	13%	392	1	2,254	6
Equilon (Shell)	8%	241	1	1,387	3
ExxonMobil	7%	211	1	1,214	3

# Compliance

- Non prescriptive – “Make it happen”
- Locations: ensure focus on target vehicle deployment areas
  - UCI’s STREET model or similar tool
- Will consider flexible compliance options
  - Increase capacity of existing station to help meet requirement
  - Propose larger station in lieu of two 400 kg/d
  - Support on-going O&M of existing funded station for partial compliance

# Station Cost Estimates

Estimates from 2010 CEC awards\*

- Gaseous delivery supporting 400 kg/day, with production nearby:
  - \$2.3M Capitol cost
- Liquid Delivery supporting 400 kg/day
  - \$2.7M Capitol cost

\*Source: Revised Notice of Proposed Award (CEC PON-09-608)

# Performance Criteria Post 2014 Stations

- Fueling specifications: meets J2601
- Access: open to public, retail setting
- Dispensing: two each H35 and H70
- Fueling: min. 50 kg/hour during peaks, 300 kg/day for peak periods
- Environmental standards met
  - SB1505 renewable requirements plus emission reductions

# Non-Compliance Penalty

Current regulation fines owner/lessors or station operators as follows:

- Failure of owner/lessor to equip required number of outlets per §2302 results in fine of \$500/car for first 10 cars fueled with gasoline each day of violation
- Failure of owner/lessor to provide clean fuel at a specific outlet per §2309(b) results in fine of \$500/car for first 5 cars fueled with gasoline at that outlet for each day of violation
- Failure of station operator to meet supply and amenity requirements of §2310 results in \$500/car fine for first 5 cars fueled with each day of violation
- Proposed changes: new regulated party will be fined, method to be determined.

# Sunset

- Current: regulation sunsets for a fuel when 10% of all retail outlets in state dispense that clean fuel
- Proposal: sunset regulation when clean fuel outlets (for a fuel) amount to 10% of all the retail gasoline outlets in the state

# Resolution Needed

- OEM surveys: Can we develop one survey that suits funding and regulatory needs?
- EV charging data collection: What type of public data will be collected by funded projects?

# Areas Needing Feedback

- EV public charging needs assessment
- Trigger: regional and statewide
- Timeline for compliance
- Compliance options
- Station performance criteria
- Future station costs

# Next Steps

- July-Aug. 2011: Continue stakeholder dialog, possible workshop
- Sept. 28, 2011: Regulatory proposal (ISOR, reg language, 399) posted on BARCU website
- Oct. 3, 2011: 45-day comment period begins
- Nov. 17-18, 2011: Board hearing – part of Advance Clean Cars proposal

# California Environmental Quality Act Scoping Meeting

## Introduction

### Overview

Framework for FED

Scope of Environmental Impact  
Analyses

Invitation for stakeholder discussion  
and feedback

# California Environmental Quality Act Scoping Meeting

## Framework for FED

- Based on Project Description (proposed regulation)
- Utilize the 2010 CEQA Environmental Checklist
- FED to include
  - Direct and Indirect Impacts
  - Cumulative Impacts
  - Alternatives

# California Environmental Quality Act Scoping Meeting

## Environmental Impact Analysis

- Based on compliance responses
- Existing conditions used as baseline
- Comparison of existing conditions with modeled projections of emissions with project and without project

# Contact Information

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